

What is claimed is:

1. A method by which a radio receiver (10), in receiving a signal transmitted over a radio channel, estimates the impulse response of the radio channel based on a received training sequence (Y) included in the received signal, the method including a step (102) of performing a plurality of correlations of a correlation sequence (Y_c'') derived from the received training sequence (Y) with a replica (X_0) of the transmitted correlation sequence, characterized by a step (101) of calculating the received correlation sequence (Y_c'') derived from the received signal based on averaging symbols of the received training sequence (Y).

2. A method for estimating the impulse response ($c(t)$) of a radio channel by which a radio receiver (10) receives a received signal including a received training sequence (Y) for which the radio receiver (10) knows a corresponding replica training sequence (X_0), the received training sequence (Y) including a correlation sequence (Y_c) having a first end and a second end, and also including an additional part (Y_{a2}) at the second end, with the additional part (Y_{a2}) the same as a corresponding portion (Y_{c1}) of the correlation sequence (Y_c) at the first end of the received correlation sequence (Y_c), and likewise for the replica training sequence (X_0) so that it includes a replica correlation sequence ($X_{0,c}$), the method characterized by:

a) a sequence-calculating step (101), responsive to the received training sequence (Y), of forming a calculated correlation sequence (Y_c'') by averaging a predetermined number of symbols (Y_{c1}) from the first end of the received correlation sequence (Y_c) with a predetermined number of corresponding symbols from the additional part (Y_{a2}) at the second end of the received training sequence (Y); and

b) a correlating step (102), responsive to the calculated correlation sequence (Y_c''), of performing a set of correlations of the calculated correlation sequence (Y_c'') with the replica training sequence (X_0), the set of correlations including a first correlation in which the calculated correlation sequence (Y_c'') is aligned with the replica correlation sequence ($X_{0,c}$) and including subsequent correlations performed with the calculated correlation sequence (Y_c'') shifted for each next correlation by one or more symbols from the position in the immediately preceding correlation, so as to provide information useful in estimating the channel impulse response ($c(t)$).

3. A receiver (10), characterized in that it is operative according to the method of claim 1.

4. A receiver (10), characterized in that it is operative according to the method of claim 2.

5. A telecommunication system, including a base transceiver station and a user equipment, both of which include a receiver (10), characterized in that both receivers (10) are operative according to the method of claim 1.

6. A telecommunication system, including a base transceiver station and a user equipment, both of which include a receiver (10), characterized in that both receivers (10) are operative according to the method of claim 2.

7. A computer program product comprising: a computer readable storage structure embodying computer program code thereon for execution by a computer processor in a receiver (10), with said computer program code characterized in that it includes instructions for performing steps of a method according to claim 1.

8. A computer program product comprising: a computer readable storage structure embodying computer program code thereon for execution by a computer processor in a receiver (10), with said computer program code characterized in that it includes instructions for performing the steps of a method according to claim 2.

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